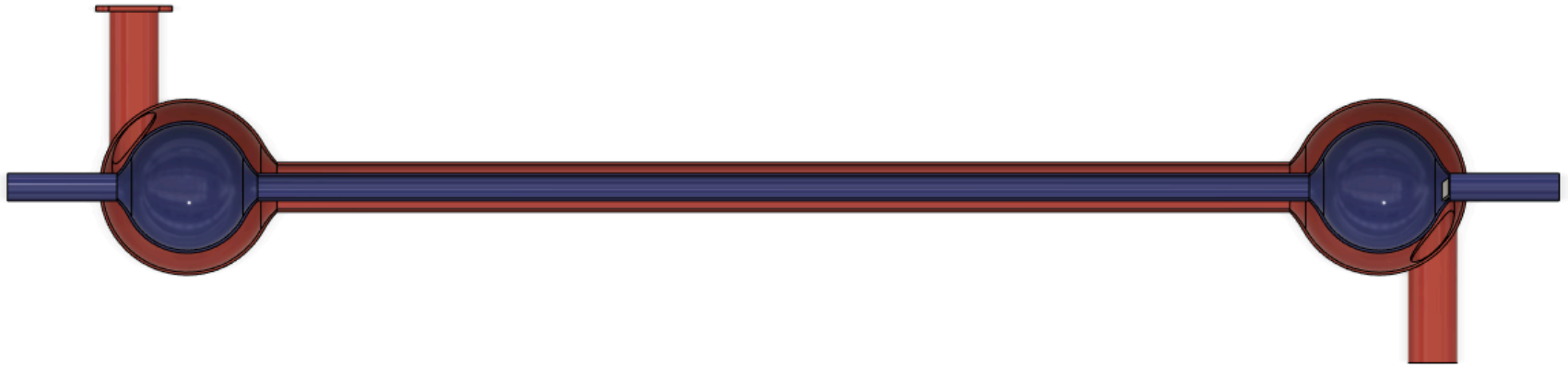
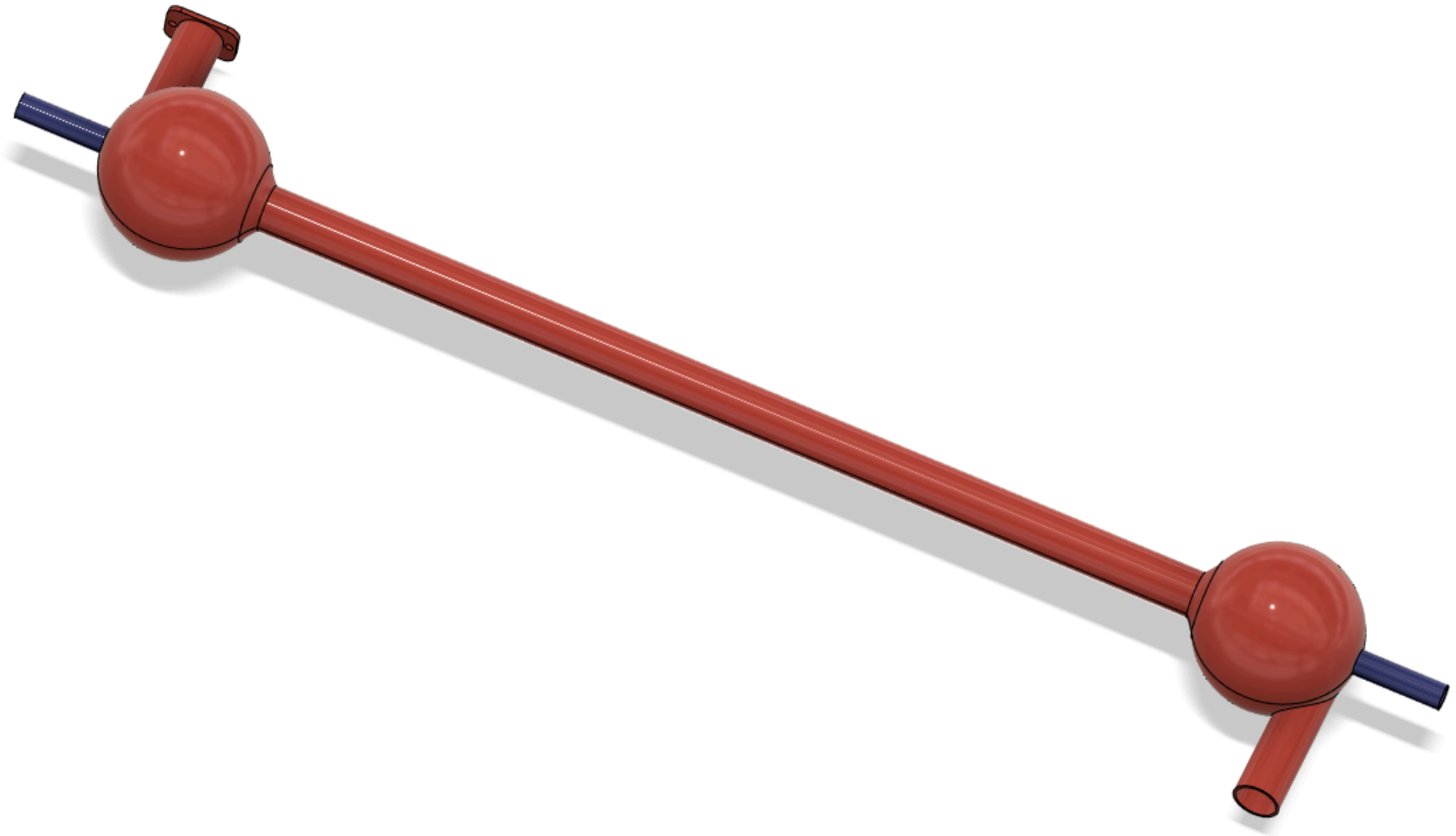
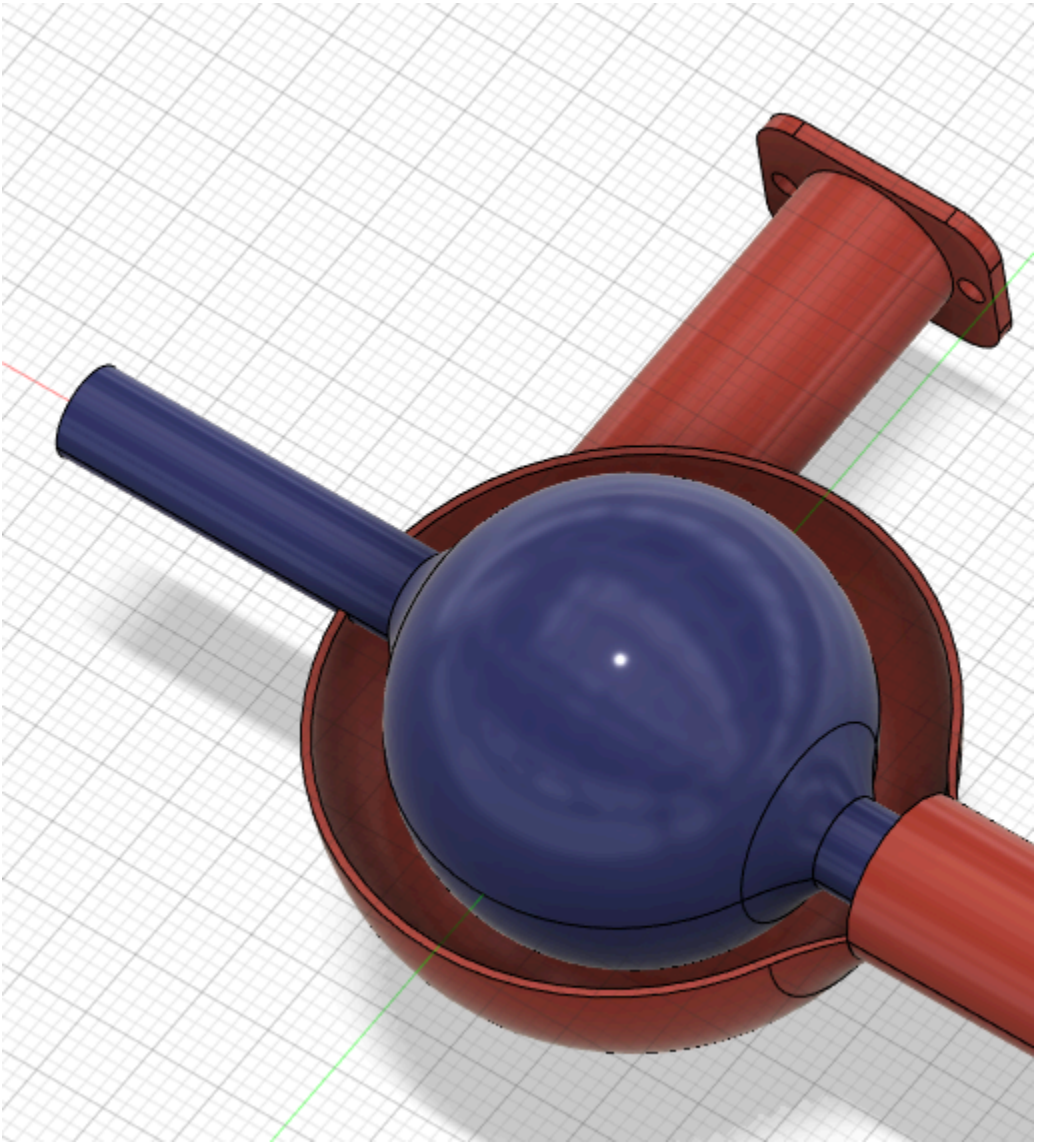
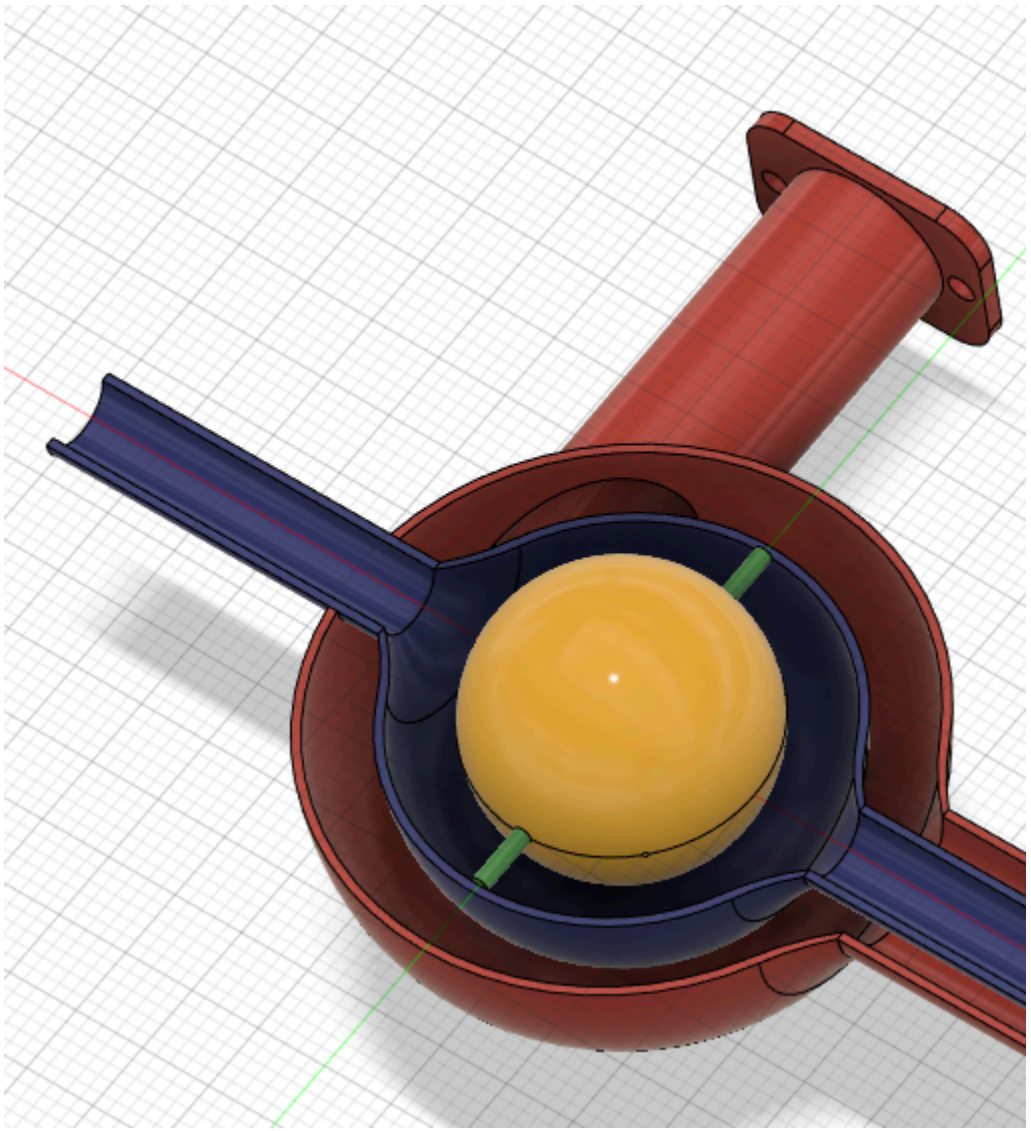


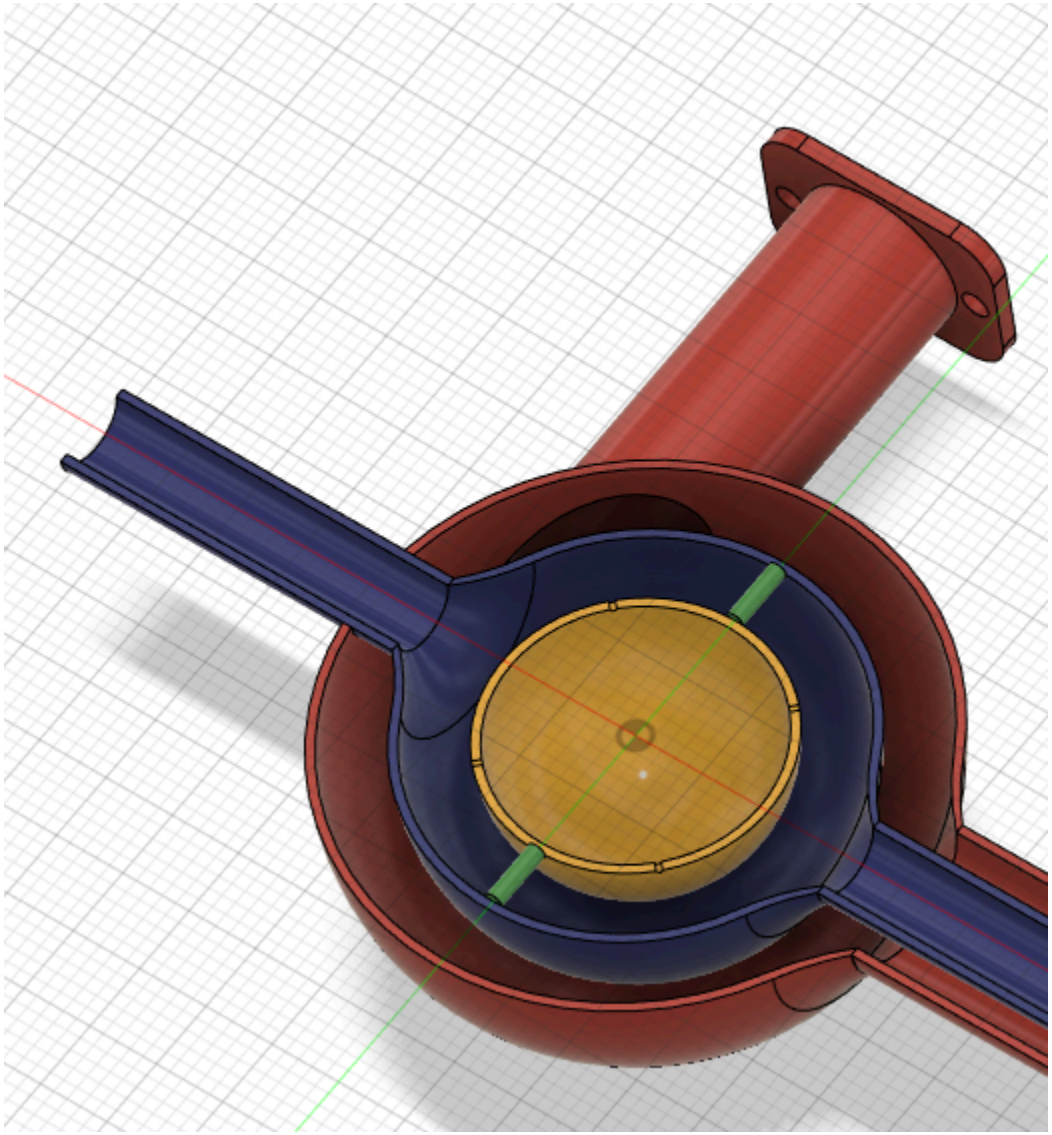


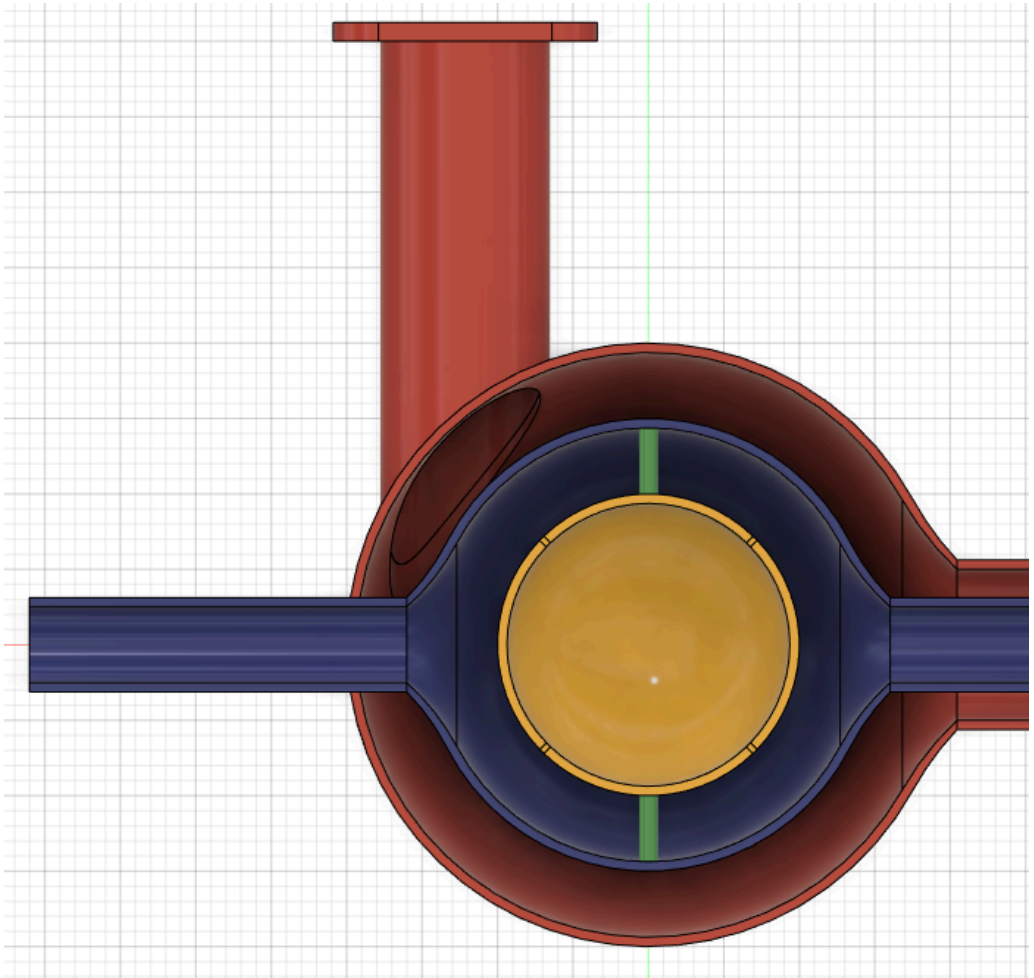
Exhaust Inlet/Intake air Outlet Side



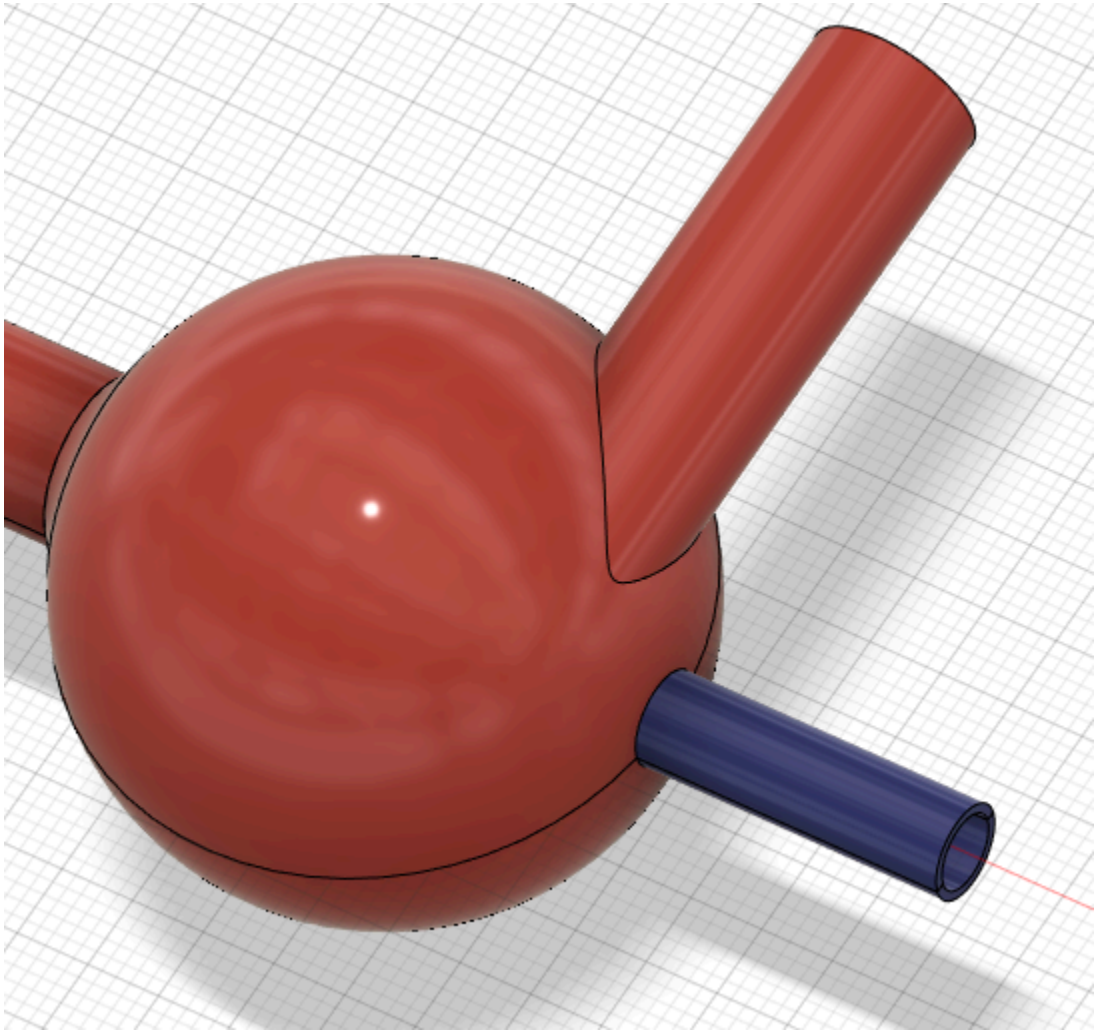


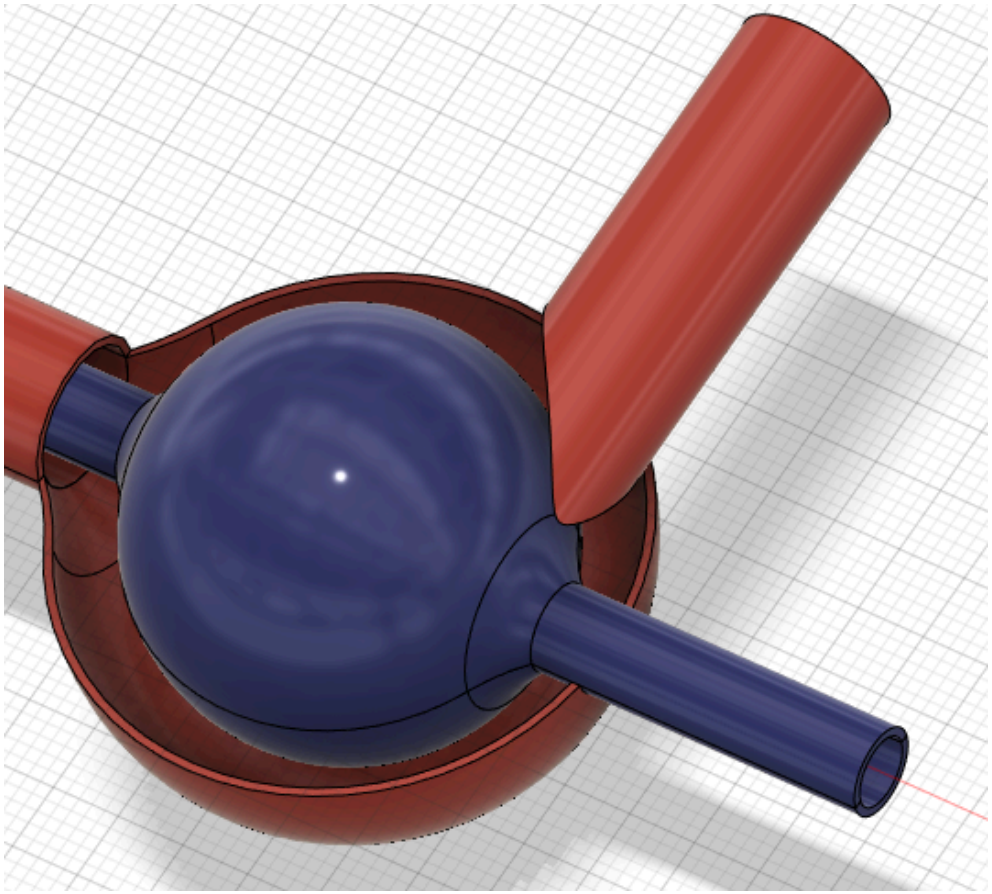
Exhaust Inlet/Intake air Outlet Side



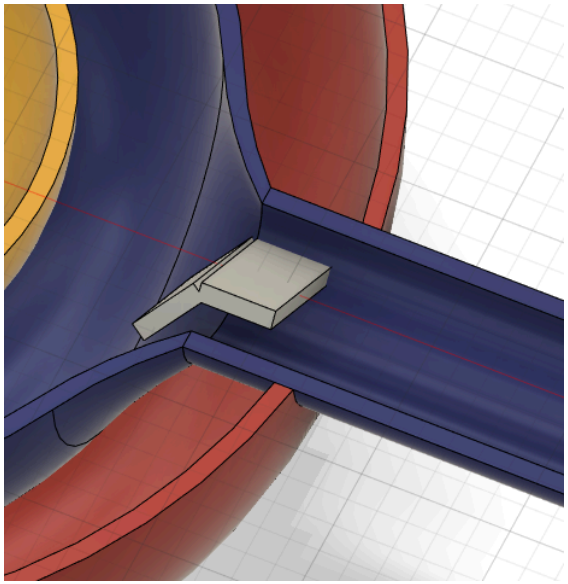


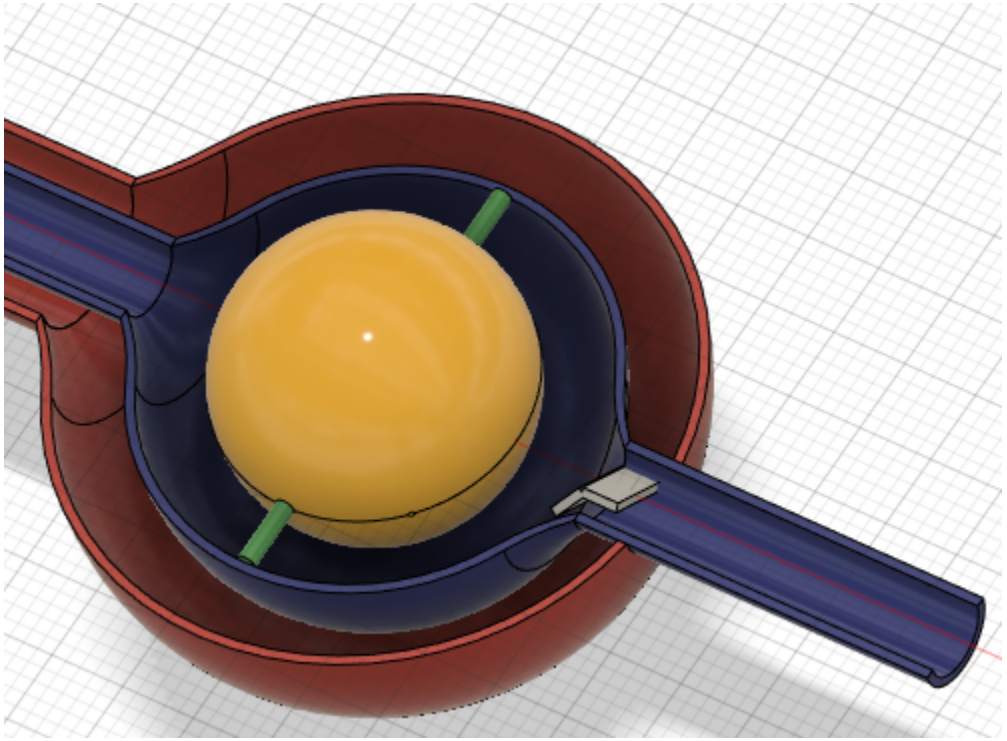
Exhaust outlet/Intake air Inlet Side

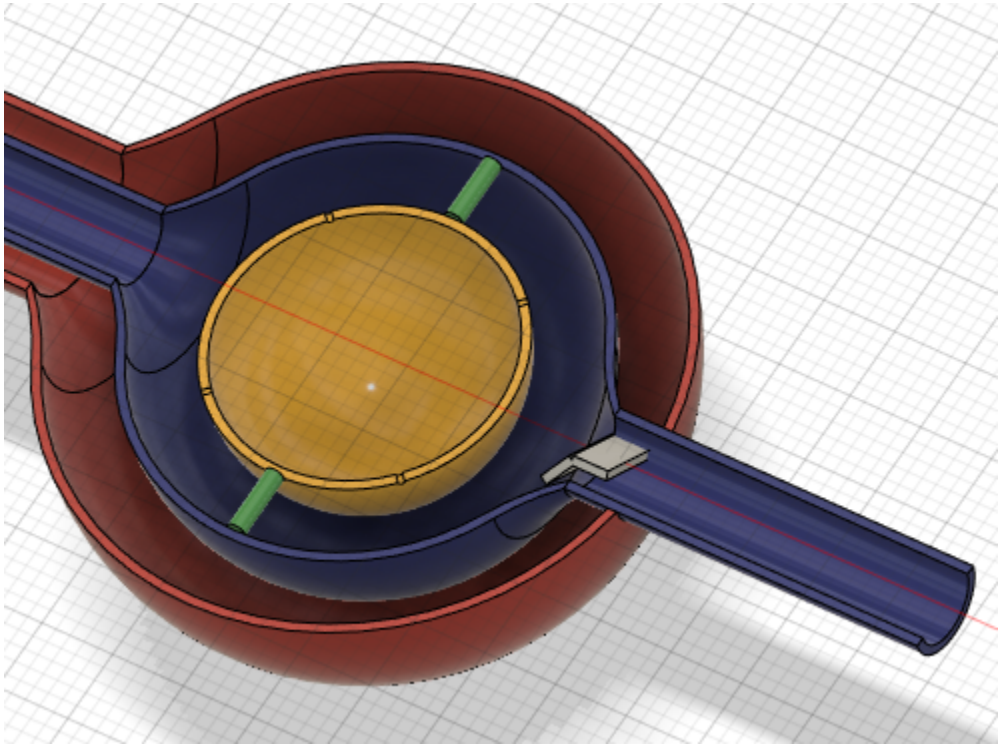




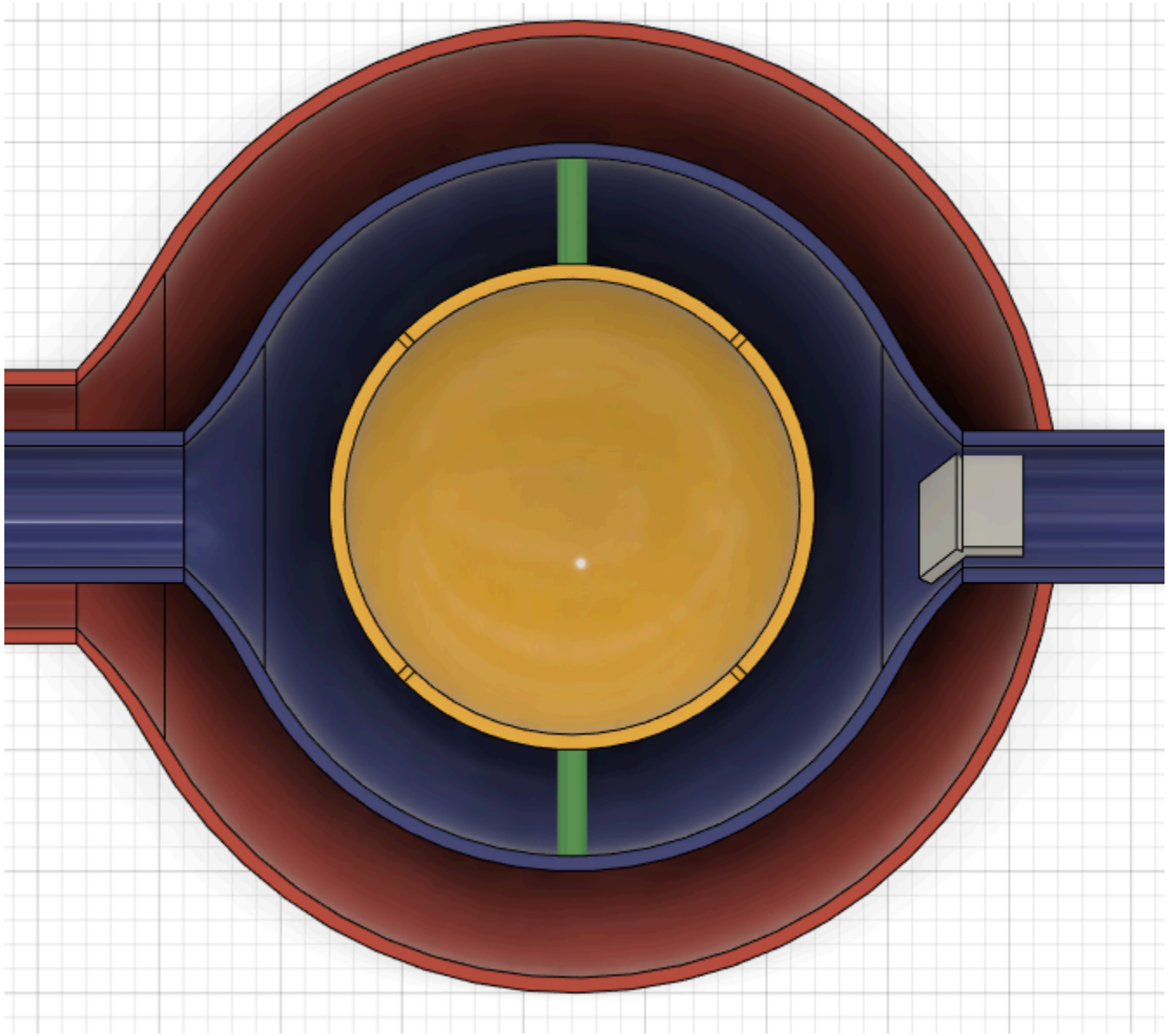
Exhaust outlet/Intake air Inlet Side







Exhaust outlet/Intake air Inlet Side



All spheres should be as perfectly centered as possible. The supporting struts (In green) are used to achieve this as well as provide structural support. The inner tube (0.5” I.D., 0.63” O.D.) length connecting the two spherical regions is a critical dimension, it needs to be 24”. Outer tube length is set off this, attach the outer tube after the inner tube length is set.

A dimensioned drawing for 1/16” material thicknesses is presented below. This can be made with or without the innermost 2” diameter sphere. Spheres may also be 1/8” or 3mm thick for ease of welding. It is the opinion of the author that the curved 51.84 degree transitions from central tubes to spheres are not totally necessary for replication purposes.

Here is a list of sources where the materials required can be aquired.

Hemispheres

2" OD 0.125" thick (11 Ga.) SS hemisphere

$9.63 each, $8.67 each for 100+

https://parts.sharpeproducts.com/stainless-steel-2-dia-hemisphere

3" OD 0.125" thick (11 Ga.) SS hemisphere

$15.83 each, $14.25 each for 100+

https://parts.sharpeproducts.com/stainless-steel-3-dia-hemisphere

4" OD 0.125" thick (11 Ga.) SS hemisphere

$21.06 each, $18.95 each for 100+

https://parts.sharpeproducts.com/stainless-steel-4-dia-hemisphere

Tubes

1.125" OD x 0.065" Wall x 0.995" ID Stainless Round Tube 304 Welded

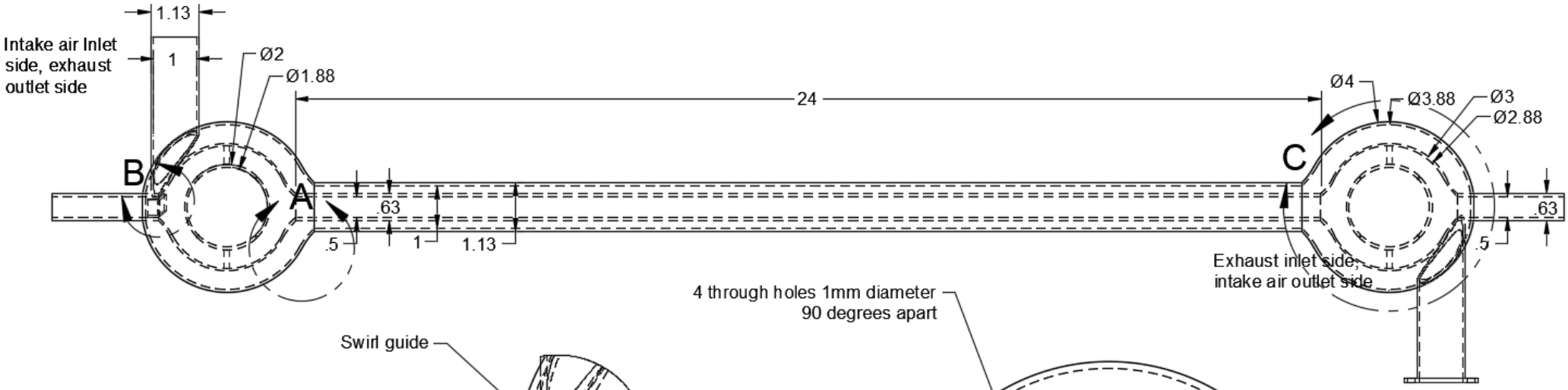
$48.84 per 3 ft piece

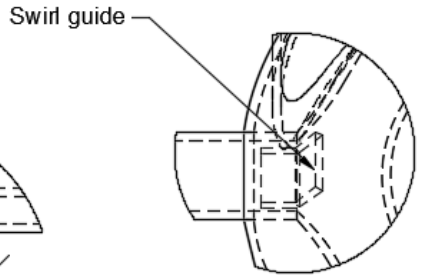
https://www.onlinemetals.com/en/buy/stainless-steel/1-125-od-x-0-065-wall-x-0-995-id-stainless-round-tube-304-welded/pid/9562

0.625" OD x 0.065" Wall x 0.495" ID Stainless Round Tube 304 Welded

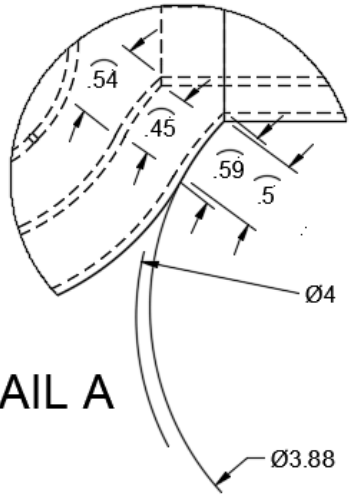
$27.33 per 3 ft piece

https://www.onlinemetals.com/en/buy/stainless-steel/0-625-od-x-0-065-wall-x-0-495-id-stainless-round-tube-304-welded/pid/469



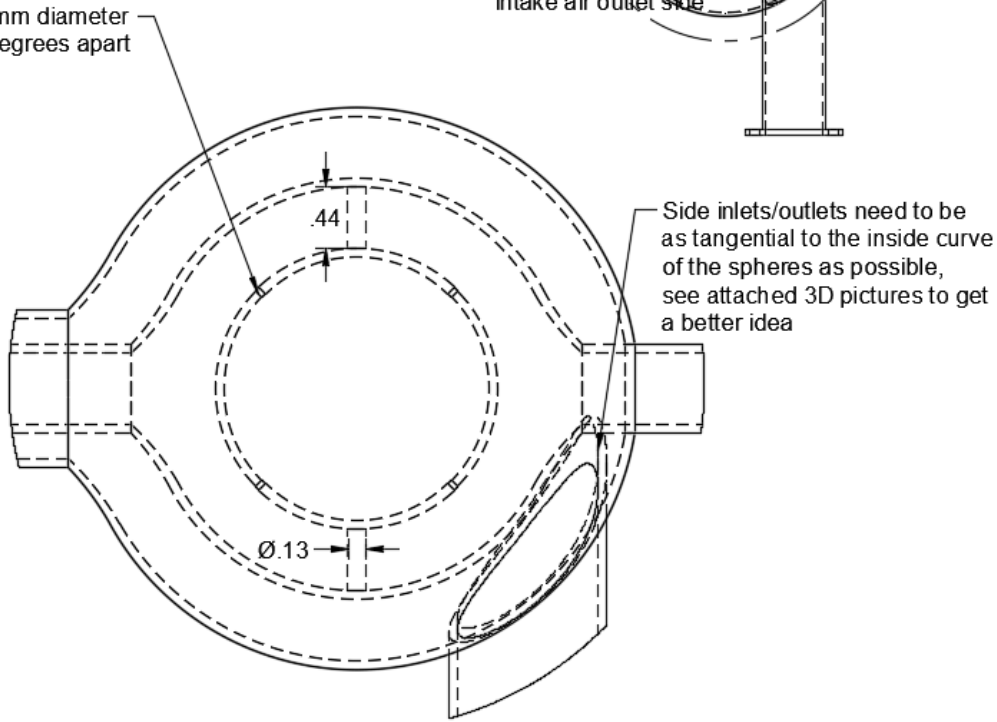


DETAIL B



DETAIL A

All material thicknesses $\frac{1}{16}$" unless otherwise noted


4 through holes 1mm diameter
90 degrees apart
.44
Ø.13
Side inlets/outlets need to be as tangential to the inside curve of the spheres as possible, see attached 3D pictures to get a better idea

DETAIL C